Potential Regional Freight Revenue Sources

One of the key roles for a potential Regional Freight Authority in northeastern Illinois would be the funding or financing of capital improvements. The vision offered in GO TO 2040 clearly includes this role, noting that current revenue sources are insufficient to meet investment needs.¹ The plan calls for an Authority to largely focus on the selection and funding of capital projects, coordinating with public and private partners to do so.

CMAP is currently developing a financial plan as part of the GO TO 2040 update. While this project is a separate effort from the Regional Freight Leadership Task Force, it does help to provide context for the overall costs of the region's transportation system and the resources available to meet those costs. Staff currently estimates that \$332.5 billion will be available from core revenue sources between 2015 and 2040, and expenditures for operating and maintaining the system to a safe and adequate level will total \$337.0 billion during that same time period.² Expenditures are therefore projected to exceed core revenues by approximately \$4.5 billion over the planning horizon, meaning that the expected funding will be insufficient to bring the system to a state of good repair or allow for additional enhancements or expansions to the system.

To assist the Task Force in its deliberation, this document reviews potential sources for new revenues dedicated to freight improvements. The discussion organizes potential revenues into two categories: broad-based funding sources and project-specific funding sources. Within each category, the discussion focuses on revenue sources that could be implemented at the regional scale relatively quickly. The document closes with discussion questions.

To help provide context, the document includes Appendix A to provide a high-level review of costs for various transportation projects.

Broad-Based Funding Sources

A Regional Freight Authority could draw on a number of revenue sources to support ongoing investment in the freight system, and using a broad revenue source could allow an Authority to support a variety of project types across multiple modes. This discussion focuses on existing revenue sources used to fund transportation projects in the region; these sources benefit from existing administrative and legal structures, and have the potential to raise meaningful revenues at relatively low rates. Table 1 below provides a summary of the three broad-based revenue sources discussed in this document, noting potential revenue yields given assumed rates; *Table 1 assumes these rates are imposed only in the seven-county CMAP region*. The following

¹ GO TO 2040, Chapter 12: Create a More Efficient Freight Network, Implementation Action Area #4: Organization and Public Policy, p. 321.

² Memo to CMAP Transportation Committee, January 8, 2014, http://tinyurl.com/njejtqa.

narrative provides background information and discusses policy issues relevant to each revenue source.

Table 1. Estimates of Revenue Yields from Broad-Based Sources

	Potential regional rate	Potential annual		
	increase	revenue yield		
Motor fuel tax	8 cents/gallon	\$235 million		
Motor vehicle	\$25/vehicle (including	\$160 million		
registration fees	both passenger vehicles			
	and trucks)			
Sales tax	0.25%	\$265 million		
New freight user fees	Varies, consult individual sections below			

Source: CMAP staff analysis using 2012 data

Motor fuel tax

The motor fuel tax (MFT) has been the backbone of federal and state transportation funding for decades. The MFT is levied as a flat per-gallon rate, with the federal government imposing an MFT of 18.4 cents per gallon and the State of Illinois imposing an MFT of 19 cents per gallon plus an additional 2.5 cents per gallon for diesel. The State raised about \$1.2 billion in MFT revenues in FY 2012, and also received about \$1.45 billion in funding from the federal Highway Trust Fund.³

Both the federal and state governments devote MFT revenues to dedicated accounts or trust funds to support transportation spending. Further, Cook, DuPage, Kane, and McHenry counties also impose a local MFT, as do several municipalities in the metropolitan area. Cook County, the City of Chicago, and other municipalities levy their local MFTs under home rule authority, while the other three counties received specific state authorization to levy a maximum 4-cent MFT. ⁴ That state law requires DuPage, Kane, and McHenry counties use their MFTs for transportation purposes, while Cook County and the municipalities use their MFTs for public safety or other purposes.

The State shares 54.4 percent of its MFT revenues with local governments. Of this portion, 49.1 percent is distributed to municipalities based on population, 16.74 percent to counties over 1,000,000 in population, 18.27 percent to counties under 1,000,000 in population based on motor vehicle license fees received, and 15.89 percent to townships based on mileage of township roads. If townships do not impose a property tax for road and bridge purposes of at least 0.08 percent (or in DuPage County, an amount of at least \$12,000 per mile of township road is also allowable), their allocation is proportionally reduced. It is unclear whether these disbursement methods tie funding amounts to the cost of operating and maintaining local roads, and these methods may be unsustainable in the long term.

³ CMAP, "State Highway Funding", Performance-Based Funding site: http://www.cmap.illinois.gov/mobility/strategic-investment/performance-based-funding/state-highway-funding. Federal MFT revenues represent the bulk of funds accruing to the Highway Trust Fund.
⁴ 55 ILCS 5/5-1035.1

The design of the motor fuel tax leaves it vulnerable to inflation and rising fuel economy. Because it is levied on a flat, per-gallon basis, it does not rise with other costs in the economy. To illustrate, if the Illinois MFT rate of 19 cents per gallon had been indexed to the Consumer Price Index in 1990, it would have risen to 33.3 cents per gallon in 2012. Further, fuel economy has improved substantially over time, so vehicles consume less gas and thus pay less in motor fuel taxes – all while driving the same or more miles. New federal regulations will raise fuel economy standards to an equivalent of 54.5 miles per gallon by model year 2025, further exacerbating this trend.⁵ These challenges could be addressed in part by regularly increasing the MFT rate, but doing so has proven politically difficult. The federal MFT was last increased in 1993 and the state MFT was last increased in 1990.

Despite these shortcomings, the MFT remains one of the most viable options for a new revenue source for transportation. The MFT is a user fee with a historically strong connection between the tax paid and the resulting infrastructure investment, and can raise substantial revenues from a modest increased rate. Additionally, administrative structures to collect and distribute the tax are already in place. Indexing the MFT to an inflationary measure such as the Consumer Price Index or Construction Cost Index would help to address its declining purchasing power.

Motor vehicle registration fees

Along with the motor fuel tax, vehicle registration fees are a key transportation revenue source. The State of Illinois imposes a \$99 annual fee for passenger vehicles along with higher rates for trucks. The State collected about \$1.4 billion in motor vehicle registration fees in FY 2012.⁶ The State has historically raised motor vehicle registration fees to support bonds issued as part of its once-a-decade capital programs. Passenger vehicle fees increased from \$48 to \$78 to support the Illinois FIRST capital program in 1999, and were increased again from \$78 to \$99 to support the Illinois Jobs Now! capital program in 2009.

The State recently raised motor vehicle registration fees but did not direct the increased revenues to transportation projects: Senate Bill 1566, signed by Governor Quinn in December 2012, imposes a \$2 surcharge on motor vehicle registration fees to support the Illinois Department of Natural Resources in its conservation efforts.

While Illinois has the highest vehicle registration fees among the 22 states that levy flat fees, for some vehicles the fees can be less than in states that charge variable fees based on characteristics such as vehicle weight, value, and age.⁷ In addition, several municipalities in the region impose their own registration fees, although it is not clear to what extent local registration fees are used to support transportation investment.

⁵ 77 Fed. Reg. 62623 (October 15, 2012), to be codified 40 CFR Parts 85, 86, and 600; 49 CFR Parts 523, 531, 533, 536, and 537

⁶ CMAP, "State Highway Funding", Performance-Based Funding site: http://www.cmap.illinois.gov/mobility/strategic-investment/performance-based-funding/state-highway-funding.
⁷ Illinois Legislative Research Unit. "Illinois Tax Handbook for Legislators, 28th Edition." April 2012.

State truck fees vary depending on weight; as examples, trucks weighing between 50,001 and 54,999 pounds pay \$1,942 and trucks weighing between 77,001 and 80,000 pounds pay \$3,191.8 Further, the State charges a trailer fee and a commercial distribution fee, along with special fees (e.g., heavy vehicle use tax, special hauling vehicle permit).

Many local governments in Illinois also impose fees for oversized and overweight vehicles to travel on roads under their jurisdiction, although it is not clear whether local governments use these revenues to support transportation investments. A regional governance structure could provide a clearinghouse function for permit fees in northeastern Illinois, or consolidate those permits into a single fee for trips that cross multiple jurisdictions. In addition to evaluating and selecting capital projects, a Regional Freight Authority could serve as a clearinghouse to coordinate the efficient collection and disbursement of local governments' oversized and overweight fees.

A regional motor vehicle registration fee has the advantages of stability and a broad base. There are a total of 6.4 million vehicles in the Chicago region, so even a small increase in the fee would generate substantial revenues at minimal household burden. The number of vehicles in the region is fairly stable, which provides a predictable, and thus bondable, revenue stream. While a regional fee has not been implemented in the past, it should be relatively straightforward to implement using existing administrative systems. Finally, vehicle registration fees are user fees, which tie the costs of the transportation system to those who benefit from it.

Related to vehicle registration fees, the State imposes driver's license fees (currently \$30) and commercial driver's license fees (currently \$60), either or both of which could be raised to support freight investments. The State also imposes fees at its truck inspection facilities (\$6.20 for single-wheel axle vehicles throughout much of the CMAP region), which could also be raised to support freight investments.

Sales tax

The sales tax is not a user fee, but has been a popular source for transportation investment both in this region and across the country.¹² In northeastern Illinois, the Regional Transportation Authority (RTA) imposes a sales tax in Cook, DuPage, Kane, Lake, McHenry, and Will counties to support transit operations, which it budgeted to raise \$1.04 billion in 2013.¹³ Those sales tax rates are the following:

http://www.cyberdriveillinois.com/departments/vehicles/cft/fees.html#truck.

⁸ Illinois Secretary of State, Flat Weight Trucks,

⁹ CMAP analysis of Illinois Secretary of State data.

^{10 625} ILCS 5/6-118

¹¹ IDOT, Illinois Vehicle Inspection Regulations,

http://www.dot.state.il.us/travelstats/vehicle%20inspection%20all%20field.pdf.

¹² See, for example, Goldman and Wachs, 2003. http://www.uctc.net/papers/644.pdf.

¹³ RTA, 2013 Operating Budget, Two-Year Financial Plan, and Five-Year Capital Program. April 2013. http://tinyurl.com/lnerket.

- A 0.75 percent tax on general merchandise and qualifying food, drugs and medical appliances in DuPage, Kane, Lake, McHenry and Will counties.
- A 1.0 percent tax on general merchandise in Cook County.
- A 1.25 percent tax on qualifying food, drugs, and medical appliances in Cook County.

The base state sales tax rate is 6.25 percent for general merchandise and 1.00 percent for qualifying food and drugs. ¹⁴ Municipalities (and counties for sales in unincorporated areas) receive 1 percentage point of the 6.25 percent rate on general merchandise sales within their borders. They also receive the full amount of the revenues from the 1 percent state rate on qualifying food, drugs, and medical appliances. This state sales tax sharing totals some \$1 billion annually in Illinois. Additionally, local governments may impose additional sales tax rates. CMAP staff research has found that local governments routinely rebate sales taxes to attract and retain businesses and developments. In total, local governments in northeastern Illinois could rebate \$433.0 million to businesses and developers through these agreements if the agreements' maximums are met. ¹⁵

In Illinois, the sales tax imposes comparatively high rates on a relatively narrow base. In the aggregate, taxpayers in northeastern Illinois pay a combined state and local rate of 8.5 percent ¹⁶ compared to a median combined state and local rate of 6.8 percent nationally. ¹⁷ The region's sales tax is applied to the sale of goods, but only 17 services, in comparison to a national median of 55 services. ¹⁸ This system does not reflect changes in purchasing and consumption patterns that have occurred since the sales tax was enacted 80 years ago. CMAP estimates that if the base rate of 6.25 percent were expanded to 65 services and applied to all customers, an additional \$210.2 million would be disbursed annually to governments in northeastern Illinois. ¹⁹

The region's high rates have led to political difficulties and tax avoidance strategies. For example, governments in the region are experiencing pressure to reduce their sales tax rates. Between 2010 and 2013, Cook County rolled back the 1-percentage point increase passed in 2008. The high sales tax rates have resulted, in some cases, in business strategies to avoid sales taxes, including creation of off-site sales offices in areas with lower taxes.

While a broad-based sales tax increase could be used to support the freight system, a special surcharge could also be placed on types of expenditures most relevant to goods movement. For example, a sales tax surcharge could be applied to truck or trailer sales, tire sales, or other vehicle parts. Applying the sales tax to a relatively narrow base would raise less revenue than a general sales tax increase, or would require relatively high rates to yield higher revenues.

¹⁴ CMAP, Regional Tax Policy Task Force, Report to the CMAP Board. January 13, 2012. http://tinyurl.com/ocbbwus

¹⁵ CMAP, Sales Tax Rebate Database Analysis Highlights Prevalence of Rebate Agreements in Metropolitan Chicago, January 29, 2014. http://tinyurl.com/l7dax5k.

¹⁶ CMAP analysis of Illinois Department of Revenue data for 2011

¹⁷ Tax Foundation, State and Local Sales Taxes at Midyear 2012, http://taxfoundation.org/article/state-and-local-sales-taxes-midyear-2012.

¹⁸ Federation of Tax Administrators, Sales Taxation of Services, 2007, http://www.taxadmin.org/fta/pub/services/services.html.

¹⁹ CMAP, Regional Tax Policy Task Force, Report to the CMAP Board. January 13, 2012. http://tinyurl.com/ocbbwus.

New Freight User Fees

Several of the broad-based mechanisms described above are paid by users of the freight system and could therefore be considered freight user fees. For example, trucks pay diesel taxes and vehicle registration fees. New freight user fees beyond these traditional sources could include container fees, vehicle and parts sales taxes or fees, vehicle-miles traveled fees, or ton-mile taxes. Some of these fees may be more appropriately implemented at the state or federal levels.

Container fees are fees assessed by ports as a user fee on containers. Some projects, notably the Alameda Corridor, have levied per-container fees to recover costs, but in those cases the fee is more properly described as a toll for use of a specific facility rather than a tax. However, in developing CREATE, the Joint Statement of Understanding forbids public funds used in CREATE to be raised from new user fees levied on the railroads such as container fees.20

CMAP collects data on intermodal lifts, which occur when shipping containers are transferred across modes, and converts those lifts to a proxy measure for containers moved through the region. Using that process, staff estimates the region moved 15.6 million twenty-foot equivalent units (TEUs)²¹ in 2012. As of January 1, 2014, the Alameda Corridor project applied a container fee of \$22.58 per loaded container,²² applying that same rate to the number of TEUs in the Chicago region would yield over \$350 million annually in revenue.

Besides technical feasibility issues, assessing fees at intermediate locations between the port and the destination of cargo may be a violation of international trade agreements, since a user fee that does not cover the cost of handling the cargo at the point of entry could be considered a trade tariff.

A vehicle-miles traveled (VMT) fee has been proposed for vehicles of all types because increasing fuel efficiencies and the growth of alternative fuels have placed the traditional fuel tax at a long term disadvantage. A VMT fee would charge drivers on a per-mile basis, rather than a per-gallon basis, and could be initially implemented for trucks. In fact, VMT fee programs for commercial vehicles are already in place in Germany and New Zealand.²³ In recent years, numerous studies have been conducted in the United States, and in 2013 Oregon became the first state to enact a VMT fee.²⁴ Although VMT fees are commonly considered a long-term solution to the decline of fuel taxes, technological barriers and privacy concerns must be fully addressed.

²⁰ CREATE program, "Final Feasibility Plan, Amendment 1, (Modified)", January 2011, http://www.createprogram.org/linked_files/FFS_amend1_jan2011.pdf.

²¹ A standard type of shipping container.

²² Alameda Corridor Transportation Authority, Schedule of Use Fees and Container Charges, Effective January 1, 2014, www.acta.org/gen/charge_per_teu_2014.pdf.

²³ Government Accountability Office, 2012. Highway Trust Fund: Pilot Program Could Help Determine the Viability of Mileage Fees for Certain Vehicles. GAO-13-77, http://www.gao.gov/products/GAO-13-77.

²⁴ CMAP, Legislation Would Establish VMT Fee Pilot Program, December 6, 2013, http://tinyurl.com/p5pake9.

CMAP estimates that a total of 104.5 billion VMT statewide for passenger vehicles and 9.4 billion VMT statewide for non-passenger vehicles in 2012. The Government Accountability Office assumed that a potential passenger vehicle VMT rate of 0.9 cents per mile and a potential non-passenger VMT rate of 3.2 cents per mile would replace existing federal fuel tax receipts.²⁵ Using lower rates of 0.05 cents per mile for passenger vehicles and 0.5 cents per mile for non-passenger vehicles, a statewide VMT would have raised \$94.7 million in 2012. Assuming a rate of 0.10 cents per mile for passenger vehicles and 1.0 cent per mile for non-passenger vehicles, a statewide VMT would have raised \$189.4 million in 2012.

• A ton-mile tax, also called a weight-mile tax, charges trucks based on their weight and distance traveled, with heavier vehicles and vehicles traveling greater distances charged at a higher rate.²⁶ Ton-mile taxes have the advantage of more effectively charging vehicles for the damage they impose on pavements, but may require additional reporting and higher administrative costs than traditional transportation user fees. Four states impose ton-mile taxes. According to a review published by the Iowa Department of Transportation, Kentucky collected about \$70.4 million in its weight-mile tax in 2010, New Mexico collected \$88.4 million in 2007, New York collected \$81 million in its 2008-09 fiscal year, and Oregon assumed \$630 million in collections between 2009-2011.²⁷

Project- or Corridor-Specific Funding Sources

The above discussion focuses on broad-based revenue mechanisms that could be used by a Regional Freight Authority. Using these sources, a Regional Freight Authority could pursue a wide array of capital improvements, potentially using its resources to fully fund projects or to leverage additional funding from other jurisdictions as well as the private sector.

However, a Regional Freight Authority could be designed to meet different objectives, and as such could rely on project-specific rather than broad-based revenue sources. For example, a Regional Freight Authority could offer financing assistance to support projects, offering loans or credit assistance. To repay these loans, projects may rely on their own revenue streams, such as tolling. Additionally, a Regional Freight Authority may follow an entirely different model than typical transportation programming agencies. Such a potential model would consist of an overarching regional entity responsible for robust freight planning. This entity would also facilitate the establishment of individual special-purpose vehicles around complex freight projects, which in turn would finance and deliver projects with user fees such as tolls.

Therefore, in some circumstances it may be advantageous for individual projects to pursue dedicated revenue mechanisms as gap or primary funding. This section surveys the tools offered by special taxing districts, as well as tolling strategies.

²⁵ GAO, ibid.

²⁶ See Oregon Department of Transportation rates as an example: http://www.odot.state.or.us/forms/motcarr/reg/9928.pdf.

²⁷ "Summary of State Use of Weight-Distance Tax", June 24, 2011, http://tinyurl.com/8w65m6m.

Special Taxing Districts

Special taxing districts offer an opportunity for funding specific transportation facilities and are already actively used in the region for smaller transportation and infrastructure projects. For example, special property tax districts may be used to pay for road maintenance within a residential subdivision.²⁸ Although special taxing districts are unlikely to fund the entirety of the cost of a major transportation project, they can provide a local match for federal grants, serve as leverage for federal financing instruments, or fund local improvements like stations and interchanges.

Special taxing districts can also be used to support **value capture**, a tool to provide local contributions toward the cost of a new facility. Value capture assumes that nearby property owners will benefit from the construction of a new facility through increased land values, and "captures" some portion of these benefits to pay for the cost of the facility. For example, improved public infrastructure, such as highway-rail grade separations and truck-appropriate geometrics and pavements, could increase property values in industrial districts. A new freight facility could lead to increased land value through the development or redevelopment of vacant or underperforming land into manufacturing, warehousing, and other facilities. Additionally, a freight improvement could reduce congestion, noise, and other community impacts, helping to raise the value of neighboring properties.

Value capture mechanisms vary and can include TIFs and SSAs (see below).²⁹ In all cases, the value capture method must be calibrated such that it does not take all of the added property value and therefore negatively impact development. Value capture has been used in other states to support transportation projects, for example the upgrading of Route 28 in northern Virginia from a two-land local road to a six-lane, limited-access facility, and the later widening and construction of additional interchanges to the facility.³⁰

Tax Increment Finance (TIF) districts utilize taxes on the incremental increase in property value to fund defined expenses related to redevelopment of areas that meet blight criteria and would experience growth and development but for public investment.³¹ While TIFs are a popular redevelopment tool, they are currently unsuited for large transportation projects for several reasons. First, TIF districts can only be created within a single municipality or, with the permission of underlying municipalities, by a single county. While many municipalities in the region have used TIFs for Metra, CTA, and roadway improvements, this structure is not conducive to large-scale transportation improvements because TIFs cannot easily cross jurisdictional lines. Second, TIFs face increasing pushback from underlying taxing districts due to their long lifespan and the effects that a limited base property value can have on the tax rates of these districts. Third, TIFs cannot be established without a finding of blight, but many areas with a need for major transportation improvements do not qualify. Finally, the 23-year lifespan

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²⁸ Additionally, special districts have been used as an economic development strategy to promote the development or redevelopment of freight-related land uses such as warehousing.

²⁹ In discussing value capture and freight, it is important to note that railroad property is exempt from the property tax. Therefore, revenues would be generated from other land uses.

³⁰ Route 28 Public/Private Partnership, 2002. Project Overview. Accessed October 31 2012 at http://www.28freeway.com/projectoverview.html.

^{31 65} ILCS 5/11-74.4-1

of TIF districts is too short to allow repayment across 25 to 35 year bonding terms, particularly when a TIF must be established several years prior to issuance of the bond to establish its increment potential.

Special Service Areas (SSAs) utilize an added property tax to fund services or infrastructure that benefits the property owners within a defined geographic area.³² Similar to TIFs, SSAs can also be created by both municipalities and counties. Some areas of the region already use SSAs to fund infrastructure for specific developments, but SSAs are less commonly for larger transportation projects. As with TIF, an improved, multijurisdictional vehicle would be required to fund major transportation improvements. Since they impose an added property tax, SSAs can face opposition from property owners.

Congestion Pricing

As another project-specific approach, **congestion pricing** primarily functions as a traffic management technique, but can raise some revenues to cover operations and maintenance costs. Congestion pricing applies the logic of supply and demand to reduce traffic congestion. Prices rise when demand is high, such as during the morning rush hour, but fall when demand is low, for example overnight. Higher prices discourage drivers from entering the congestionpriced facility while low prices have the opposite effect. In this way, the toll rate manages traffic demand to guarantee high travel speeds. Furthermore, the higher prices would encourage travelers to carpool, take transit, or consider

Figure 1. Schematic of how congestion pricing could operate as an express toll



alternate routes and times for their trips, further moderating demand.³³

CMAP recently issued a report analyzing the impacts of congestion pricing on five major expressway facilities budgeted for in GO TO 2040. That report estimates travel time savings of 31-66 percent, a drop in congestion delay on existing lanes of 24-33 percent, and a drop in congestion on arterial roads in the same corridor of 6-10 percent. Congestion pricing on these five facilities would raise an estimated \$74 million in gross annual revenues in 2016 (in current dollars). This revenue estimate includes passenger vehicles only. Most express lanes in the United States do not allow trucks, but a fully congestion-priced facility such as the Central Lake County Corridor or Elgin-O'Hare Expressway would allow trucks. Actual revenues would likely be higher than those estimated in this study, depending on truck volumes and prices charged.

^{32 35} ILCS 200/27

³³ Visit CMAP's congestion pricing mini-site for more information on the policy: http://www.cmap.illinois.gov/mobility/roads/congestion-pricing.

Table 2. Revenue estimates from congestion pricing in 2016 (current dollars)

Total	\$74,000,000			
I-290 express lane	\$21,000,000	Mannheim Rd. to Downtown: \$3.41	-24%	-7%
I-90 express lane	\$7,000,000	Elgin to I-294: \$2.53	-33%	-7%
I-55 express lane	\$20,000,000	I-355 to Dan Ryan: \$2.76	-26%	-6%
Elgin-O'Hare Expressway	\$16,000,000	US 20 to I-90: \$0.90 over base toll	N/A	-8%
Central Lake County Corridor (IL 53 extension/IL 120 bypass)	\$10,000,000	Waukegan to Schaumburg: \$2.07 over base toll	N/A	-10%
			GENERAL PURPOSE LANES	EXPRESS LANES
FACILITY	GROSS ANNUAL REVENUE ESTIMATE	CONGESTION PRICE FOR SELECTED TRIP	CHANGE IN HOURS OF DELAY DURING AM PE COMPARED TO CURRENT CONDITIONS	

Source: CMAP, "Congestion Pricing: An Analysis of the GO TO 2040 Major Capital Projects."

A follow-up CMAP analysis explored the impacts of congestion-pricing the entire regional expressway system. That study conservatively estimated a total of \$550-600 million in annual revenues from congestion pricing. This figure does not count the revenue already generated by the base toll on the ISTHA system. A precise estimate of truck revenue would require additional model development, but the ratio of truck revenue (46 percent) to passenger car revenue (54 percent) on the Tollway system suggests that trucks should bring total annual revenue to more than \$1 billion. It should be noted that that the toll rates were chosen to reduce congestion rather than to maximize revenue; modification of the toll rates could probably yield somewhat higher revenues. While trucks are unlikely to be permitted on new express lanes, they would benefit from the overall reduction in congestion in the general-purpose lanes. Further, trucks would likely be permitted on fully congestion-priced facilities, where they could benefit from fast, reliable travel times.

Discussion Questions

If the region were to pursue a Regional Freight Authority as envisioned in GO TO 2040, a number of additional questions would need to be addressed, revenues chief among them. The Task Force should consider the following questions to help frame its deliberations:

- **Old or new.** Should the Authority have access to existing revenue sources or develop new sources? Can existing revenue sources be dedicated to freight improvements?
- **Broad or narrow.** Should revenues be raised from broad sources and used for general freight programming? Or should they be raised from specific projects and restricted to that project's costs?
- **Rational nexus.** Should potential revenue sources either new or existing be directly linked to project costs?
 - Should revenues be raised from the entire region? Or should revenues come from users of the freight system?
 - Should revenue sources be restricted by mode?

These questions are a starting point for the Task Force to begin thinking about revenue sources. Answering these fundamental questions will frame more detailed analyses of revenue sources and raise additional policy issues.

Appendix A. Illustrative Project Costs

To help support a discussion of activities for a Regional Freight Authority, this document presents illustrative project costs for a variety of transportation improvements relevant to the freight system. This document draws from work types that focus on the maintenance and modernization of the existing system. Maintenance and modernization projects would improve the operational efficiency of the freight system. In contrast, new projects that *expand* the transportation system may experience a wider array of costs and be subject to more extensive planning processes.

An understanding of rough project costs will assist the Task Force in its deliberations on potential revenue sources, illustrating the number and types of projects that could be funded under various revenue packages. The first section presents estimates of various unit costs, as well as the estimated costs of illustrative projects currently programmed in the region's Transportation Improvement Program. The following section describes the total costs and individual project costs associated with the CREATE program of rail improvements.

Estimating Unit Costs

CMAP staff has developed rough unit costs for basic capital expenditures for the region's highway system (Table 3). Additionally, engineering and environmental studies can add 30 percent to construction costs for most work types, and 15 percent for resurfacing and traffic signal modernization. All costs were developed through outreach to several of the region's highway implementing agencies.

Table 3. Capital Unit Cost Assumptions

Facility Type	Work Type	Units	Updated Unit Cost (\$1,000s)
Гутиновачист	Resurfacing (includes interchanges)	Lane Mile	\$280
Expressways	Reconstruction (w/out add lanes or interchanges)	Lane Mile	\$4,000
Arterial & Collector	Resurfacing	Lane Mile	\$200
Roads	Reconstruction	Lane Mile	\$1,600
Unclassified &	Resurfacing	CL Mile	\$300
Local Roads	Reconstruction	CL Mile	\$1,100
Roadway Bridges	1st deck overlay	Sq ft	\$0.050
	2nd deck overlay	Sq ft	\$0.050
	Deck replacement & some rehabilitation	Sq ft	\$0.180
	Bridge replacement or major rehabilitation	Sq ft	\$0.375
Traffic signals	Retiming	Signals	\$2.5
	Modernization	Signals	\$300
Expressways, roads, bridges & TSM	Engineering & Environmental studies	% of constr. cost	30% for reconstruction and bridge projects; 15% for resurfacing and TSM

Source: CMAP staff analysis. "CL" refers to centerline miles and "TSM" refers to traffic signal modernization.

The above discussion presents rough unit costs. The details of actual projects vary substantially, and so it is helpful to consider the full costs of projects. Table 4 presents the costs for a number of illustrative projects programmed in CMAP's Transportation Improvement Program.

Table 4. Sample Costs for Expensive Modernization Projects

	Work Type(s)	Cost
Wacker Drive Reconstruction: Randolph St. to Congress Pkwy.	Reconstruct facility, reconfigure ramps, reconfigure interchange	\$423,205,000
I-190 O'Hare Access Roads: Mannheim, Balmoral, I-190	Corridor improvement: widening and extension of arterial roads, new ramp, relocated airport train	\$311,015,000
Metra Yards, Shops, and Facilities	Tower and yard improvements, shop and vehicle facility work	\$45,800,000
Irving Park Rd. grade separation near York Rd.	Railroad grade separation, adjusted alignment of road, improve intersection	\$62,186,000
Lake St. at McLean Blvd.	Reconstruct interchange	\$68,500,000
71st St. at CSX Blue Island Subdivision	Railroad grade separation	\$60,900,000
47 th St. over IHB Railroad	Railroad grade separation	\$57,000,000
I-55 at Central Ave.	Reconstruct interchange	\$57,903,000
I-90/I-190 from E. River Rd. to I-94	Reconstruct facility, intersection improvements	\$52,951,000

Source: CMAP Transportation Improvement Program (TIP) database and map, accessed January 29, 2014.

CREATE Project Costs

The Chicago Region Environmental and Transportation Efficiency (CREATE) program is a public-private partnership consisting of the U.S. Department of Transportation, IDOT, the Chicago Department of Transportation, Amtrak, Metra, and private railroads dedicated to implementing specific rail improvements in and around Chicago.³⁴ The CREATE program is focused on four critical corridors and identifies 70 projects, including new flyovers, grade separations, improved signalization, and the modernization of equipment. As of November 2013, 20 projects had been completed.³⁵

According to an October 2013 status update, the full cost of the CREATE program is \$3.8 billion, of which \$1.2 billion has already been committed.³⁶ Support for the CREATE program has come from the federal government (particularly through the TIGER program), the state government (particularly through its bond-financed capital programs), private railroads, and other sources.³⁷

Table 5 lists estimated project costs for thirty-six CREATE projects that are neither under construction nor complete.³⁸ These unfunded projects help to illustrate the range of individual

³⁴ CREATE program website, http://www.createprogram.org/index.htm.

³⁵ CREATE, "Status of CREATE Projects (11/7/2013)", http://www.createprogram.org/linked_files/status_map.pdf.

³⁶ CREATE Program Status Update – October 2013.

³⁷ The Transportation Investments Generating Economic Recovery (TIGER) program is a competitive grant program first established under the American Recovery and Reinvestment Act, and is currently in its fifth round.

³⁸ CREATE program, "Final Feasibility Plan, Amendment 1, (Modified)", January 2011, http://www.createprogram.org/linked_files/FFS_amend1_jan2011.pdf.

project costs in the CREATE program. From this project list, the average grade separation project costs about \$60.4 million, and the average tower upgrade project costs about \$4.2 million.

Table 5. Unfunded CREATE Project Costs

	Work Type	Cost Estimate
B1 CP Double and IHB Connection	Tower upgrade	\$ 12,700,000
B9/EW1 Argo	Double track connection, new mainlines	\$ 86,000,000
EW 2/P2/P3/GS19 (75th Street Corridor Improvement Project)	Reconfigured track, bypass, flyover	\$ 628,200,000
EW 3 Pullman Junction	New mainline track	\$ 6,800,000
GS1 63rd St/Harlem Ave	Grade separation	\$ 68,700,000
GS10 47th St/East Ave	Grade separation	\$ 55,100,000
GS11 Columbus Ave/Maplewood Ave	Grade separation	\$ 39,100,000
GS12 1st Ave	Grade separation	\$ 76,900,000
GS13 31st Ave	Grade separation	\$ 76,700,000
GS17 Western Ave	Grade separation	\$ 56,100,000
GS18 Harlem Ave	Grade separation	\$ 100,200,000
GS2 Central Ave/54th St	Grade separation	\$ 54,000,000
GS20 87th St/Rockwell St	Grade separation	\$ 53,800,000
GS21a 95th St/Eggleston Ave	Grade separation	\$ 60,000,000
GS22 115th St	Grade separation	\$ 43,700,000
GS23a Cottage Grove	Grade separation	\$ 45,800,000
GS24 Maple Ave	Grade separation	\$ 65,300,000
GS3a Morgan St/Pershing Rd	Grade separation	\$ 80,800,000
GS4 Central Ave	Grade separation	\$ 55,600,000
GS6 25th Ave	Grade separation	\$ 34,100,000
GS8a 5th Ave	Grade separation	\$ 56,500,000
GS9 Archer Ave/Kenton Ave	Grade separation	\$ 64,600,000
P4 Grand Crossing	New mainline track	\$ 97,000,000
P5 Brighton Park	Rail flyover	\$ 90,000,000
P6 Canal	New bridge	\$ 90,000,000

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P7 Chicago Ridge	Rail flyover	\$ 90,000,000
T2 Blue Island Junction	Tower upgrade	\$ 3,000,000
T3 Rondout	Tower upgrade	\$ 2,500,000
T4 A-5	Tower upgrade	\$ 3,000,000
T5 B-17	Tower upgrade	\$ 3,000,000
T7 16th Street	Tower upgrade	\$ 500,000
T9 Blue Island	Tower upgrade	\$ 5,000,000
WA 11 Dolton Interlocking	Reconfigured	\$ 17,400,000
WA 7 Brighton Park	Connections	\$ 8,000,000
WA1 Ogden Junction	Reconfigure and signalize, and new bridge	\$ 33,600,000
WA4 BNSF Horseshoe	New track	\$ 18,800,000

Source: CREATE Program, Final Feasibility Plan, Amendment 1 (Modified)